

ORDER FOR SUPPLIES OR SERVICES

PAGE OF PAGES

1

14

IMPORTANT: Mark all packages and papers with contract and/or order numbers.

1. DATE OF ORDER 08/16/2016		2. CONTRACT NO. (If any) EP-C-16-006		6. SHIP TO:	
3. ORDER NO. 0001		4. REQUISITION/REFERENCE NO. PR-ORD-16-02250		a. NAME OF CONSIGNEE AWPB-MB	
5. ISSUING OFFICE (Address correspondence to) CPD US Environmental Protection Agency 26 West Martin Luther King Drive Mail Code: NWD Cincinnati OH 45268				b. STREET ADDRESS US EPA-OW-OWOW-AWPD-MB 1200 PENNSYLVANIA AVE., NW MC-4503-T	
				c. CITY WASHINGTON	e. ZIP CODE 20460
7. TO: ROBERT ERICKSON				f. SHIP VIA	
a. NAME OF CONTRACTOR ESS GROUP, INC.				8. TYPE OF ORDER	
b. COMPANY NAME				<input type="checkbox"/> a. PURCHASE <input checked="" type="checkbox"/> b. DELIVERY REFERENCE YOUR: _____ Please furnish the following on the terms and conditions specified on both sides of this order and on the attached sheet, if any, including delivery as indicated.	
c. STREET ADDRESS 10 HEMINGWAY DR # 2				Except for billing instructions on the reverse, this delivery order is subject to instructions contained on this side only of this form and is issued subject to the terms and conditions of the above-numbered contract.	
d. CITY RIVERSIDE		e. STATE RI	f. ZIP CODE 02915		
9. ACCOUNTING AND APPROPRIATION DATA See Schedule				10. REQUISITIONING OFFICE	

11. BUSINESS CLASSIFICATION (Check appropriate box(es))				12. F.O.B. POINT Destination	
<input type="checkbox"/> a. SMALL	<input type="checkbox"/> b. OTHER THAN SMALL	<input type="checkbox"/> c. DISADVANTAGED	<input type="checkbox"/> d. WOMEN-OWNED	<input type="checkbox"/> e. HUBZone	
<input type="checkbox"/> f. SERVICE-DISABLED VETERAN-OWNED	<input type="checkbox"/> g. WOMEN-OWNED SMALL BUSINESS (WOSB) ELIGIBLE UNDER THE WOSB PROGRAM		<input type="checkbox"/> h. EDWOSB		
13. PLACE OF		14. GOVERNMENT B/L NO.		15. DELIVER TO F.O.B. POINT ON OR BEFORE (Date) Multiple	
a. INSPECTION	b. ACCEPTANCE			16. DISCOUNT TERMS	

17. SCHEDULE (See reverse for Rejections)

ITEM NO. (a)	SUPPLIES OR SERVICES (b)	QUANTITY ORDERED (c)	UNIT (d)	UNIT PRICE (e)	AMOUNT (f)	QUANTITY ACCEPTED (g)
	DUNS Number: 019131986 TOCOR: David Bolgrien Max Expire Date: 05/26/2021 Continued ...					

SEE BILLING INSTRUCTIONS ON REVERSE	18. SHIPPING POINT		19. GROSS SHIPPING WEIGHT		20. INVOICE NO.		17(h) TOTAL (Cont. pages)
	21. MAIL INVOICE TO:						
	a. NAME RTP Finance Center						\$54,000.00
	b. STREET ADDRESS (or P.O. Box) US Environmental Protection Agency RTP-Finance Center (AA216-01) 109 TW Alexander Drive www2.epa.gov/financial/contracts						
c. CITY Durham				d. STATE NC	e. ZIP CODE 27711	(b)(4)	17(i) GRAND TOTAL

22. UNITED STATES OF AMERICA BY (Signature) 08/16/2016

ELECTRONIC
SIGNATURE

23. NAME (Typed)
Sandra Stargardt-Licis
TITLE: CONTRACTING/ORDERING OFFICER

ORDER FOR SUPPLIES OR SERVICES
SCHEDULE - CONTINUATION

PAGE NO
2

IMPORTANT: Mark all packages and papers with contract and/or order numbers.

DATE OF ORDER 08/16/2016	CONTRACT NO. EP-C-16-006	ORDER NO. 0001
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ITEM NO. (a)	SUPPLIES/SERVICES (b)	QUANTITY ORDERED (c)	UNIT (d)	UNIT PRICE (e)	AMOUNT (f)	QUANTITY ACCEPTED (g)
0001	Admin Office: CPOD US Environmental Protection Agency 26 West Martin Luther King Drive Mail Code: NWD Cincinnati OH 45268 Accounting Info: 16-17-B-05HEL-202BJ7XF5-2505-1605HHX512-001 BFY: 16 EFY: 17 Fund: B Budget Org: 05HEL Program (PRC): 202BJ7XF5 Budget (BOC): 2505 DCN - Line ID: 1605HHX512-001 Period of Performance: 08/16/2016 to 05/26/2017 Base Period: Support NCCA research on Great Lakes Assessments (water chemistry) See attached Performance Work Statement NARS Contract, Contract # EP-C-16-006 Task Order #1. (b)(4) Delivery: 365 Days After Award				(b)(4)	
0002	Option Period I: Support NCCA research on Great Lakes Assessments (water chemistry) See attached Performance Work Statement NARS Contract, Contract # EP-C-16-006 Task Order #1. (b)(4) (Option Line Item) 300 Days After Award Delivery: 300 Days After Award				(b)(4)	
0003	Option Period II: Support NCCA research on Great Lakes Assessments (water chemistry) See attached Performance Work Statement NARS Contract, Contract # EP-C-16-006 Task Order #1. (b)(4) (Option Line Item) 300 Days After Award Delivery: 300 Days After Award				(b)(4)	
0004	Option Period III: Support NCCA research on Continued ...				(b)(4)	

TOTAL CARRIED FORWARD TO 1ST PAGE (ITEM 17(H))

\$54,000.00

ORDER FOR SUPPLIES OR SERVICES
SCHEDULE - CONTINUATION

PAGE NO
3

IMPORTANT: Mark all packages and papers with contract and/or order numbers.

DATE OF ORDER
08/16/2016

CONTRACT NO.
EP-C-16-006

ORDER NO.
0001

ITEM NO. (a)	SUPPLIES/SERVICES (b)	QUANTITY ORDERED (c)	UNIT (d)	UNIT PRICE (e)	AMOUNT (f)	QUANTITY ACCEPTED (g)
	Great Lakes Assessments (water chemistry) See attached Performance Work Statement NARS Contract, Contract # EP-C-16-006 Task Order #1. (b)(4) (Option Line Item) 300 Days After Award Delivery: 300 Days After Award					

TOTAL CARRIED FORWARD TO 1ST PAGE (ITEM 17(H))

\$0.00

**Performance Work Statement
NARS Contract
Task Order #1**

TITLE: National Coastal Condition Assessment: Great Lakes Connecting Channels
Research Project:
Laboratory Analysis of Water Chemistry Samples

A. EPA PERSONNEL

Task Order Contracting Officer Representative (TOCOR):

Name: David W. Bolgrien
Office: Office of Research and Development, Mid Continental Ecology
Division
Address: 6201 Congdon Blvd, Duluth, MN 55804
Telephone: 218-529-5216
E-mail: Bolgrien.Dave@epa.gov

B. ESTIMATED PERIOD OF PERFORMANCE

Base: Date of task order award through June 30, 2017
Option 1: July 1, 2017 through June 30, 2018
Option 2: July 1, 2018 through June 30, 2019
Option 3: July 1, 2019 through June 30, 2020

C. TASK ORDER TYPE

Firm Fixed Price

I. BACKGROUND:

The U.S. EPA and other partners are conducting research on the environmental assessment of Great Lakes connecting channels as part of the National Coastal Condition Assessment (NCCA). The NCCA repeats statistically-based surveys of coastal marine systems and the Laurentian Great Lakes at 5-year intervals. The goal of our research is to integrate connecting channels (St Marys River, Huron-Erie corridor, and Niagara River) into the overall assessment of coastal ecosystems. The NCCA is designed to provide information on the extent of condition classes that support healthy biological condition and recreation, and to estimate the spatial extents of major stressors of coastal systems. Status and trends data provide insights into whether these systems are getting cleaner. Consistent sampling and analytical procedures ensure that EPA can compare the results across the systems and over time. In August, 2016, field crews from EPA and the Great Lakes National Program Office will collect samples from the St Marys River (connecting Lake Superior and Lake Huron). Work in subsequent years will be detailed in Task Order amendments. Field protocols are detailed in the NCCA Field Operations Manual (FOM; US EPA 2015a). Laboratory analysis will follow the protocols in the NCCA Lab Operation Manual (LOM; US EPA 2015b) and NCCA Quality Assurance Project Plan (QAPP; US EPA 2015c). All

samples will be delivered to the lab immediately upon collection. The number of samples from each annual connecting channel survey will be approximately 60 samples under this Task Order.

For water chemistry, the lab will determine levels of conductivity, pH, sulfate (SO₄), chloride (Cl⁻)s, ammonia (NH₃), nitrate-nitrite (NO₂-NO₃), total nitrogen (TN), total phosphorous (TP), and chlorophyll a using methods listed the LOM (US EPA 2015b). A separate assay for ortho phosphate is not required. Dissolved organic carbon (DOC) and turbidity analyses will be done by the methods noted in Table 1. Table 1 also denotes critical quality assurance (QA) and data quality objectives (DQOs) for these analyses.

Table 1 Water Chemistry and Chlorophyll-a: Laboratory Method Performance Requirements

Indicator	Units	Potential Range of Samples ¹	Method Detection Limit Objective ²	Target Reporting Limit	Acceptable reporting Limit	Transition Value ³	Precision Objective ⁴	Accuracy Objective ⁵
Conductivity	µS/cm at 25°C	1 to 75,000	1.0	2.0	2.0	20	± 2 or ±10%	± 2 or 5%
pH	Std units	3.3 to 10.2	N/A	NA	NA	5.75, 8.25	≤5.75 or ≥ 8.25 = ±0.07; 5.75-8.25 = ±0.15	≤5.75 or ≥ 8.25 = ±0.15; 5.75-8.25 = 0.05
Ammonia (NH ₃)	mg N/L	0 to 17	0.02	0.02	0.02	0.10	± 0.01 or ±10%	± 0.01 or ±10%
Nitrate-Nitrite (NO ₃ -NO ₂)	mg N/L	0 to 360 (as nitrate)	0.02	0.02	0.05	0.10	± 0.01 or ±10%	± 0.01 or ±10%
Total Nitrogen (TN) ⁶	mg/L	0.1 to 90	0.01	0.02	0.05	0.10	± 0.01 or ±10%	± 0.01 or ±10%
Total Phosphorous (TP)	µg P/L	0 to 22,000 (as TP)	2.0	4.0	10	20.0	± 2 or ±10%	± 2 or ±10%
Dissolved Organic Carbon (DOC) ⁷	mg C/L	0.1 to 109	0.1	0.20	0.5	≤ 1 > 1	± 0.10 or ±10%	± 0.10 or ±10%
Chloride (Cl)	mg Cl/L	0 to 5,000	0.10	0.20	Max of 1*	1	± 0.10 or ±10%	± 0.10 or ±10%
Sulfate (SO ₄)	mg SO ₄ /L	0 to 5,000	0.25	0.50	Max of 1*	2.5	± 0.25 or ±10%	± 0.25 or ±10%
Chlorophyll-a	µg/L in extract	0.7 to 11,000	0.5	0.5	0.5**	15	± 1.5 or ±10%	± 1.5 or ±10%
Turbidity ⁸	NTU	0 to 44,000	1.0	2.0	2.0	20	± 2 or ±10%	± 2 or ±10%

¹ Estimated from samples analyzed for NWCA 2011 and at the EPA Western Ecological Division-Corvallis laboratory between 1999 and 2005

² The method detection limit is determined as a one-sided 99% confidence interval from repeated measurements of a low-level standard across several calibration curves.

³ Value for which absolute (lower concentrations) vs. relative (higher concentrations) objectives for precision and accuracy are used.

⁴ For duplicate samples, precision is estimated as the pooled standard deviation (calculated as the root-mean square) of all samples at the lower concentration range, and as the pooled percent relative standard deviation of all samples at the higher concentration range. For standard samples, precision is estimated as the standard deviation of repeated measurements across batches at the lower concentration range, and as percent relative standard deviation of repeated measurements across batches at the higher concentration range.

⁵ Accuracy is estimated as the difference between the measured (across batches) and target values of performance evaluation and/or internal reference samples at the lower concentration range, and as the percent difference at the higher concentration range.

⁶ Persulfate Digestion with colorimetric analysis (Cd reduction; EPA Method 353.2; Revision 2.0, 1993)

⁷ APHA 5310-C (using filtered sample for dissolved C only)

⁸ EPA Method 180.1 Determination of Turbidity by Nephelometry (Revision 2.0; 1993)

*The contractor shall provide the results of additional development work with ion chromatography in attempting to achieve EPA's reporting limits. If EPA determines that the contractor has made a good faith effort, EPA will accept the reporting limits that the contractor has been able to achieve up to a maximum of the value shown in Table 1.

**The reporting limit assumes that the field crew provides enough filtered sample so that the lab does not need to adjust the reporting limit

Before the laboratory submits the batch data to EPA, the analyst who generated the data and an experienced data reviewer must independently check and review the data, as follows:

- The analyst shall review the data to ensure that:
 - Sample preparation information is correct and complete
 - Analysis information is correct and complete
 - The appropriate method and standard operating procedures were followed
 - Analytical results are correct and complete
 - Quality control samples were within established control limits
 - Blanks were within the appropriate quality control (QC) limits
 - Documentation is complete
- The data reviewer shall review the data package to verify that:
 - Calibration data are scientifically sound and appropriate
 - QC samples were within established guidelines
 - Qualitative and quantitative results are correct
 - Data spreadsheet conforms to EPA data template requirements
 - Documentation is complete

Accompanying its data submission for each batch, the laboratory shall provide a short narrative that includes the following information:

- Project summary referencing the batch QC identification number, total number of samples in the batch and their sample numbers, and the analytical methodology used for analysis;
- Discussion of any protocol deviations that may have occurred during sample testing;
- Discussion of QC questions that were encountered and the corrective measures taken;
- Definitions of any laboratory QC codes used in the data;

- Summary and discussion of samples that are diluted by the presence of an interference, non-target analyte, or target analyte; and
- QC samples exceeding established control limits or parameters required by laboratory internal analytical Standard Operating Procedures (SOPs).

As a quality control measure, the field crew may submit field blank samples to the laboratory. The contractor shall analyze field blank samples using the same procedures as those for the regular field samples. Unlike internal or calibration standards, the analyses of field blanks will apply to the total number of samples submitted under the task order.

II. PURPOSE

The purpose of this task order is to perform water chemistry analyses of samples collected as part of the NCCA Great Lakes Connecting Channel Research Project. The types of support required for this project include technical support, sample analyses, transmittal of the results in database format, and a revised database at the conclusion of quality control procedures.

III. GOVERNMENT FURNISHED INFORMATION

EPA will arrange for delivery of the samples to the laboratories.

The following documents are provided as references:

- Water Chemistry Chapter of the 2015 NCCA Laboratory Operations Manual (LOM; US EPA 2015b; <https://www.epa.gov/national-aquatic-resource-surveys/national-coastal-condition-assessment-2015-lab-operations-manual>). The PWS refers to this chapter as the “Method.”
- 2015 NCCA Field Operations Manual (FOM; US EPA 2015a; <https://www.epa.gov/national-aquatic-resource-surveys/national-coastal-condition-assessment-2015-field-operations-manual>)
- 2015 NCCA Quality Assurance Project Plan (QAPP; US EPA 2015c; <https://www.epa.gov/national-aquatic-resource-surveys/national-coastal-condition-assessment-2015-quality-assurance>)

As they become available, the EPA TOCOR will provide the contractor with revisions of these or other relevant documents or information deemed necessary for the contractor to provide the support for the Performance Work Statement.

IV. GENERAL REQUIREMENTS

In providing support under the tasks described in Section V, the contractor also shall adhere to the following general requirements:

1. Deliverables

Memoranda shall be placed on company letterhead and the subject line will include the phrase “EPA Contract xx-x-xx-xxx”.

The contractor shall name all electronic files using a logical abbreviation for the name of the document (e.g., TO25Data), the contractor name (i.e., ABC for Allied Building Corp.), and the date of edits to assist in version control (ex: TO25Data_ ABC_20160902).

The contractor shall use EPA's templates for reporting the results of the laboratory procedures for NCCA samples. For any other database or spreadsheet submitted to EPA, the contractor must provide metadata that, at a minimum, identify the fields recorded for each sample, define the codes used for the field, and include the version number and date.

The contractor shall ensure that documentation is created using Agency standard software formats (e.g., Microsoft Office) to facilitate EPA use and review.

2. Identification at Meetings/Teleconferences (see Contract clause B.2)

Contractor personnel shall always identify themselves as contractor employees by name and organization. Contractor personnel are prohibited from acting as the Agency's official representative. The contractor shall refer any questions relating to the interpretation of EPA policy, guidance, or regulation to the TOCOR.

V. SCOPE OF WORK

The contractor shall provide laboratory support for the analysis of water samples as described in the following tasks.

Task 1. Task Order Management and Monthly progress reports

The contractor shall manage the Task Order (TO) and submit monthly progress and financial reports prepared and submitted in accordance with the contract clause, Contract Attachment 2, Reports of Work.

- a. Teleconferences: Prior to the shipment of samples from the field, the contractor shall participate in 1-2 teleconferences with EPA about laboratory procedures for receiving, storing, tracking, analyzing, and reporting water chemistry samples and results. Each teleconference may last approximately 1 hour to review laboratory SOPs (copies of which are provided to EPA prior to the teleconference), the QAPP and LOM. The goal of the teleconferences is to ensure consensus on the analytical procedures and a schedule for sample processing and reporting.
- b. Status Summaries: Prior to delivering the progress report, the contractor shall provide monthly status summaries. The monthly status report shall match the time period covered by the progress report. The contractor shall provide Excel spreadsheets with the monthly status reports that include:
 - i. The number of samples delivered. If EPA conducts an external QC review and/or collects field blanks, they shall be considered "samples" for the purpose of invoicing, scheduling, and reporting. However, EPA considers QA/QC requirements (e.g., blank tests, sample retests due to QC failures) to be part of the sample analyses and will not pay any additional costs associated with such activities.
 - ii. The number of samples for which the laboratory has submitted data.

- iii. Data for the samples processed, or revised, since the previous summary. The contractor must report the data using EPA's data template, but updated with the new and revised data. The data must include the results and any data flags for the blanks, standards, controls, spikes, and samples. In reviewing invoices, the EPA TOCOR will only consider the sample data to be complete, and eligible for payment, if the data include the entire batch of samples and their QC data (i.e., data flags and data for blanks, standards, and controls). In addition, the contractor shall provide a separate case narrative (e.g., emailed Word or pdf file) for the EPA TOCOR to review with the data.
- c. **Monthly Financial Reports:** The contractor shall provide a financial report each month that matches the costs in the corresponding invoice.
 - i. The contractor shall prepare and submit the financial reports in accordance with the contract clause, Contract Attachment 2, Reports of Work.
 - ii. For the sample analyses completed during the month and billed in the invoice, the financial report shall identify the sample using its site identification code and sample number.
 - iii. For the month in which the contractor delivers the final database for Task 4, the contractor shall include the costs for Task 4.
- d. **Monthly Progress Reports:** The contractor shall provide a progress report each month that includes project status; expenditures to date; number of samples in each processing stage compared to the plan; unexpected problems or concerns, including with quality assurance; lessons learned; QA/QC activities; and next steps. The contractor also shall certify, each month, that all assigned staff have received the appropriate training required for assigned duties. The contractor shall prepare and submit the monthly progress reports in accordance with the contract clause, Contract Attachment 2, Reports of Work.
- e. **Issues Requiring EPA Resolution:** The contractor shall immediately notify the EPA TOCOR of any unexpected problems or concerns with QA/QC outcomes. Recommended remedies or corrective actions, including modifications of SOPs, should be part of the notification. The contractor also shall include problems and concerns in the monthly progress report.

Deliverables and Schedule under Task 1:

Subtask	Deliverable	Due
a.	Teleconferences, including copies of SOPs.	Date/time per technical direction from EPA TOCOR based upon contractor's recommended dates/times.
b.	Status updates with data in spreadsheet and case narrative	Monthly for any month in which samples were received and/or processed.
c. and d.	Progress and financial reports in electronic format	Monthly for any month in which samples were received and/or processed.

Subtask	Deliverable	Due
e.	Notification (by email or teleconference) of EPA to problems or concerns	Immediately when issue identified.

Task 2. Quality Assurance (Contract PWS B.3)

Quality Assurance (QA) is an important component of EPA's work to assure that minimum quality standards are attained. The contractor shall address the QA requirements of this task order by adhering to the requirements and procedures identified in:

- The contractor's customized Quality Management Plan (QMP) incorporated into this contract;
- 2015 NCCA Quality Assurance Project Plan (QAPP; US EPA 2015c)
- 2015 NCCA Laboratory Operations Manual (LOM; US EPA 2015b)
- Requirements identified in Table 1

As demonstration of the contractor's:

- a. Commitment to adhere to the QAPP, the contractor's Quality Assurance Official (QAO) and each laboratory's QAO shall sign the page "Review & Distribution Acknowledgment and Commitment to Implement" in the introductory section of the QAPP. The contractor shall distribute the version of the QAPP (US EPA 2015c) and LOM (US EPA 2015b) available at award of the task order, and any additional revisions approved by the EPA QAO, throughout the contractor's organization, including subcontractors and consultants. If EPA distributes an updated version of the QAPP or LOM and states that it contains a "significant change," relevant to water chemistry analyses, the contractor shall acknowledge, in writing (e.g., email), that it has received and distributed the revised document to the appropriate personnel.
- b. Implementation of QA/QC in performing the other tasks in this Performance Work Statement, the contractor shall provide EPA with documentation of its QA activities as follows:
 - i. Standard Operating Procedures (SOPs) and any other quality assurance documentation developed or adopted by the contractor's laboratory for use in performing the required analyses.

- ii. Reports of relevant QA activities in any deliverable. All QA documentation prepared under the task order shall be considered non-proprietary.
 - iii. Monthly reports of QA activities performed during implementation of this task order. These monthly QA reports shall identify QA activities performed to support implementation of this task order, problems encountered, deviations from the QAPP, and corrective actions taken. The contractor shall include the QA report with the monthly progress report.
- c. Ability to conform to NCCA measurement quality objectives, the contractor must, at a minimum, ensure that the data meets the measurement quality objectives in the QAPP.

Deliverables and Schedule under Task 2:

Subtask	Deliverable	Due
a.	Completed Signature page “Review & Distribution Acknowledgment and Commitment to Implement” of the <u>QAPP</u> .	No later than 5 working days after award of the task order.
	Email acknowledgement of receipt of <u>QAPP</u> or <u>LOM</u> with “significant change”.	No later than 10 working days after receiving revised document from EPA.
b.	Laboratory SOPs	No later than 5 working days after effective date of task order or SOP modification.
	Notification to EPA of SOP modification.	
	Documentation of QA activities	With deliverables
	Monthly reports of QA activities during months when samples are delivered and/or processed	With monthly progress report

Task 3. Chemistry Analyses

The contractor shall strictly adhere to the specifications in Table 1 and report all data elements identified in Appendix 1. The EPA TOCOR will issue technical direction if minor revisions to Appendix 1 is necessary.

If the contractor identifies a situation requiring modification of analytical procedures or SOP, the EPA TOCOR must approve the modification before the contractor can implement the change. CO approval is required for any change that potentially affect the costs (decrease or increase) and/or period of performance.

In addition to the delivery of data addressed in Task 1, the contractor shall provide the deliverables resulting from the following activities:

- a. Log each sample and record the condition of the sample into the NARS Information Management (IM) system within 24 (clock) hours of the sample arriving at the laboratory. If the sample does not arrive when expected, the contractor shall immediately notify the EPA TOCOR or her designee. Alternatively, for shipments with a large number of samples, the contractor may email a spreadsheet with the sample login and sample condition information to the EPA TOCOR or her designee.
- b. The laboratory shall retain:
 - o The sample materials, including vials, for a minimum of one (1) year after collection. During this time, the laboratory shall maintain the materials at the temperature specified in the LOM (US EPA 2015b).
 - o Original records, including laboratory notebooks and instrument logs, for a minimum of ten (10) years from the date that EPA publishes the final report.
- c. If EPA or the contractor determines that the transfer of samples or records to another location is necessary, EPA will make separate arrangements (e.g., task order modification) with the contractor for any necessary photocopying, packaging, and shipping expenses. Otherwise, at the end of the retention period, the contractor shall follow its internal protocols for disposal.
- d. Unless the TOCOR grants an exception, the contractor shall not publish findings based upon work conducted under this task order until EPA provides public access to the data.

Deliverables and Schedule under Task 3:

Subtask	Deliverable	Due
a.	Sample logged into NARS IM system or transmittal of spreadsheet	Within 24 (clock) hours of sample receipt
a.	Email identifying missing sample	Immediately if sample does not arrive when expected
b. and c.	Access to samples or original laboratory records.	Upon EPA TOCOR's written request.

Task 4. Final Database

The contractor shall provide revised and final databases for the results of the water chemistry analyses reported in Task 1 and Task 2. The contractor shall provide:

- a. Responses to EPA's questions about the sample and QC data, as conveyed by the EPA TOCOR's technical direction.
- b. Revised databases that incorporate changes based upon EPA's review of the data and identified by the EPA TOCOR's technical direction.

- c. Final database that incorporates revisions identified by the EPA TOCOR's technical direction.

Deliverables and Schedule under Task 4:

Subtask	Deliverable	Due
a.	Email with responses to data questions	1-5 working days per technical direction
b.	Revised databases	10 working days after receiving the EPA TOCOR's technical direction. The contractor shall assume that five revisions will be required as a result of EPA's review of the data.
c.	Final database	10 working days after receiving technical direction; but no later than 5 days prior to the end of the period of performance.

VI. TRAVEL

EPA does not anticipate that any travel will be necessary to perform the tasks in the Performance Work Statement.

VII. Literature Cited

APHA Method 5310-C 2010. Determination of total organic carbon by UV persulfate oxidation.

U.S. EPA Method 180.1 1993; revision 2.0. Determination of turbidity by nephelometry.

U.S EPA Method 353.2 1993; revision 2.0. Determination of nitrate-nitrite nitrogen by automated colorimetry.

U.S. EPA. 2015a. National Coastal Condition Assessment 2015 Field Operations Manual. U.S. Environmental Protection Agency Office of Water, Washington, DC. EPA-841-R-14-007; <https://www.epa.gov/national-aquatic-resource-surveys/national-coastal-condition-assessment-2015-field-operations-manual>

U.S. EPA. 2015b. National Coastal Condition Assessment 2015 Laboratory Operations Manual. U.S. Environmental Protection Agency Office of Water, Washington, DC. EPA-841-R-14-008; <https://www.epa.gov/national-aquatic-resource-surveys/national-coastal-condition-assessment-2015-lab-operations-manual>

U.S. EPA. 2015c. National Coastal Condition Assessment 2015 Quality Assurance Project Plan (version 1.3 May, 2015). U.S. Environmental Protection Agency Office of Water, Washington, DC. EPA-841-R-14-005; <https://www.epa.gov/national-aquatic-resource-surveys/national-coastal-condition-assessment-2015-quality-assurance>

VIII. Quality Assurance Surveillance Plan (QASP)

The contract QASP is applicable to this Task Order.

Appendix 1: Required Data Elements

The contractor shall provide the following data elements for each sample (QC and field) in Excel format using the data template provided by EPA.

Water Chemistry and Chlorophyll-a: Data Elements for Each Sample

Variable	Type	Description
SITE_ID	Character	Site identification code or type of QC sample (e.g., LAB BLANK)
SAMPLE_ID	Character	Sample number, LCS, QCCS, Blank, Matrix Spike, or CRM
ANALYSIS_TYPE	Character	Water Chemistry (CHEM) or Chlorophyll a (CHLA)
REPEAT	Numeric	Duplicate
DATE_COLLECT	Date	Date that the field crew collected the sample
ARRIVAL_TEMP	Numeric	Temperature of sample upon arrival at the laboratory
CONDITION_CODE	Character	Condition codes describing the condition of the sample upon arrival at the laboratory; leave blank for control
		Flag Definition
		OK Sample is in good condition
		C Sample container is cracked
		L Sample or container is leaking
		ML Sample label is missing
		NF Sample is not at proper temperature
		Q Other quality concerns, not identified above
CONDITION_COMMENT	Character	Explanation for Q FLAG (if needed)
PARAMETER	Character	Analyte name
CAS_NO	Character	CAS Registry number
LABNAME	Character	Laboratory name (abbreviation)
METHOD	Character	Laboratory method used
ANALYST	Character	Last name or initials of person who performed the analysis
REVIEWER	Character	Last name or initials of the person who provided a separate independent review of the data
INSTRUMENT	Character	Identification of instrument used for the analysis – provide enough information to identify the particular instrument in the laboratory
DATE_PROCESSED	Date	Date that the analysis started
QC_BATCH_LOT	Character	Unique laboratory quality control lot numbers must be assigned to each batch of samples. The lot number must associate each batch of field samples to the appropriate laboratory control sample,

Variable	Type	Description
		matrix spike, laboratory duplicate, method blank, and CRM samples.
HOLDING_TIME	Y/N	Analysis performed within holding time
MATRIX	Character	Water
MDL	Numeric	Lab method detection limit (based upon lab's historical data)
LRL	Numeric	Lab reporting limit (based upon lab's historical data)
DILUTION	Numeric	Dilution of sample (blank or 1 if no dilution)
RESULT	Numeric	Concentration value
RESULT_QUAL	Character	Data qualifier (usually blank)
RESULT_REASON	Character	Reason for qualification in RESULT_QUAL (usually blank)
UNIT	Character	Unit of measurement for RESULT, MDL, and LRL
QC_CODE	Character	Apply laboratory defined QC codes and describe in the comments field. Provide set of laboratory's code as part of the case narrative
QC_COMMENT	Character	Explain situation that created QC code, or any unusual aspects of the analysis

WATER CHEMISTRY SAMPLES	
COLUMN NAME	DESCRIPTION
SITE_ID	SITE ID code from label
VISIT_NO	Visit number from label
DATE_COL	Date collected from label
DATE_RECEIVED	Date sample received at laboratory
LAB	Laboratory code
SAMPLE_ID	Sample ID from label
SAMPLE_TYPE	Sample type (CHEM=cubitainer, CHLA=Chlorophyll filter)
BATCH_ID	Batch ID assigned by lab (can be date of analytical run)
LAB_SAMPLE_ID	Internal ID code assigned by laboratory
SAM_CODE	Sample code (REGULAR=actual sample, LAB_DUPL=Laboratory duplicate [second aliquot prepared from a single cubitainer])
DATE_ANALYZED	Date sample was analyzed for ANALYTE
ANALYTE	Analyte code (see below)
UNITS	Units (see examples below)
RESULT	Numerical result from analysis (do not put lab flag codes here). If result below MDL, enter mdl value and assign LAB_FLAG=ND. If between MDL and RL, record value and assign LAB_FLAG=L
MDL	Method detection limit value applicable to batch and analyte
RL	Minimum reporting (or quantitation) applicable to batch and analyte
HOLDING_TIME	Actual holding time (between collection and analysis)
LAB_FLAG	data qualifier code for RESULT assigned at laboratory (see codes below)
LAB_COMMENT	Comments or flag explanations
CHLOROPHYLL SAMPLES	
COLUMN NAME	DESCRIPTION
SITE_ID	SITE ID code from label
VISIT_NO	Visit number from label
DATE_COL	Date collected from label
DATE_RECEIVED	Date sample received at laboratory
LAB	Laboratory code
SAMPLE_ID	Sample ID from label
SAMPLE_TYPE	Sample type (CHEM=cubitainer, CHLA=Chlorophyll filter)
BATCH_ID	Batch ID assigned by lab (can be date of analytical run)
LAB_SAMPLE_ID	Internal ID code assigned by laboratory
SAM_CODE	Sample code (REGULAR=actual sample, LAB_DUPL=Laboratory duplicate [second aliquot prepared from a single cubitainer])
DATE_ANALYZED	Date sample was analyzed for ANALYTE
ANALYTE	Analyte code (see below)
EXTRACT	Volume of extract (typically 40 mL)
SAMPLEVOL	Volume of sample collected in field (from sample label)- typically 500 mL
VOLUME_FILTERED	Volume filtered in field
UNITS	Units (see examples below)
RESULT	Numerical result from analysis (do not put lab flag codes here). If result below MDL, enter mdl value and assign LAB_FLAG=ND. If between MDL and RL, record value and assign LAB_FLAG=L
MDL	Method detection limit value applicable to batch and analyte
RL	Minimum reporting (or quantitation) applicable to batch and analyte
HOLDING_TIME	Actual holding time (between collection and analysis)
LAB_FLAG	data qualifier code for RESULT assigned at laboratory (see codes below)
LAB_COMMENT	Comments or flag explanations
LAB FLAGS	
B	Analyte was detected in the associated procedural blank (contamination) (explain in lab comments)
E	Equipment questionable (explain in lab comments)
H	Sample was received and/or analyzed past the recommended holding time (explain in lab comments)
J	Estimated value (explain in lab comments)-- use L flag if value is between MDL and RL
L	Below reporting level
N	Insufficient sample, analysis could not be performed (explain in lab comments)
ND	Analyte not detected at or above the listed MDL
O	Other quality concerns (e.g., one or more QA/QC sample results failed acceptance criteria)
S	Sample shipping problem (explain in lab comments). Assign if sample is received > 2 days after collection
UNITS	
mg/L	milligrams/Liter
mg CaCO3/L	mg calcium carbonate/L (if reporting ANC as alkalinity)
ug/L	micrograms/L
mg N/L	milligrams Nitrogen/Liter (for ammonia, nitrate, nitrate-nitrite, and total nitrogen)
useq/L	microequivalents/Liter (for ANC)
uS/cm at 25 C	microSiemens/centimeter at 25 degrees C
PCU	Platinum Cobalt Units
NTU	Nephelometric Turbidity Units
ANALYTE CODES	
PH	pH measured at laboratory (can be initial PH value of ANC titration)
COND	Specific conductance at 25 degrees C
TURB	Turbidity
DOC	Dissolved Organic Carbon
AMMONIA	Ammonia-Nitrogen (or Total Ammoniacal Nitrogen)
NO3NO2	Nitrate-Nitrite
NTL	Total nitrogen
PTL	Total phosphorus
CHLORIDE	Chloride
SULFATE	Sulfate
CHLA	Chlorophyll a

SITE_ID	VISIT_NO	DATE_COL	DATE_RECEIVED	LAB	SAMPLE ID	SAMPLE_TYPE	BATCH_ID
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LAB_SAMPLE_ID	SAM_CODE	DATE_ANALYZED	ANALYTE	UNITS	RESULT	MDL	RL
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HOLDING_TIME LAB_FLAG LAB_COMMENT

SITE_ID	VISIT_NO	DATE_COL	DATE_RECEIVED	LAB	SAMPLE ID	SAMPLE_TYPE	BATCH_ID
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LAB_SAMPLE_ID	SAM_CODE	DATE_ANALYZED	ANALYTE	EXTRACT	VOLUME_FILTERED	UNITS
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RESULT	MDL	RL	HOLDING_TIME	LAB_FLAG	LAB_COMMENT
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**POINTS OF CONTACT
NARS CONTRACT
TASK ORDER (TO) 1**

Title: TO 1: Water Chemistry Laboratory

The contractor shall provide contact information for the prime contractor and laboratory. If the task order is awarded, EPA will use this information in contacting the contractor and providing shipping instructions to the batch laboratory and/or field crews. Use the template in the Table below or any other format that provides the required information.

Also include any special shipping instructions, recommendations, and/or preferences (e.g., do not deliver on weekends).

Table: Contact Information

Person's role in the task order	Organization	Person's name	Phone	Email (<i>most EPA and logistics-related communications will be by email</i>)	Include person on emails (Y/N)
TO Leader (<i>required</i>)	Prime				
Other prime contacts (e.g., TO coordinator)	Prime				
Lab contact (<i>for shipping questions</i>)	Lab (<i>include shipping address for samples and any special instructions</i>)				
Backup lab contact	Lab				
Others?					

OTHER INFORMATION (if any):